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FOLEY HOAG, LLP			GAMBEL, PHILLIP	
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SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE		
3 MONTHS	02/07/2007	PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)
	10/767,561	FREEMAN ET AL.
	Examiner Phillip Gabel	Art Unit 1644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 09 November 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-14 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

DETAILED ACTION

1. Applicant's election of the species anti-inflammatory agents, and aspirin as the ultimate species in the Reply to Restriction Requirement, filed 2/15/06, is acknowledged.

Claims 1-14 are pending.

Upon reconsideration of the prosecution history of the parent USSNs of the instant application USSN 12/767,561, particularly USSN 09/206,132, now U.S. Patent No. 6,723,705 (see claims 1-25);
claims 1-14 are under consideration as they read on all of the claimed limitations.

2. If applicant desires priority under 35 U.S.C. 120 based upon a previously filed application, specific reference to the earlier filed application must be made in the instant application. For benefit claims under 35 U.S.C. 120, 121 or 365(c), the reference must include the relationship (i.e., continuation, divisional, or continuation-in-part) of the applications. This should appear as the first sentence of the specification following the title, preferably as a separate paragraph unless it appears in an application data sheet. The status of nonprovisional parent application(s) (whether patented or abandoned) should also be included. If a parent application has become a patent, the expression "now Patent No. _____" should follow the filing date of the parent application. If a parent application has become abandoned, the expression "now abandoned" should follow the filing date of the parent application.

Applicant is required to update the status and relationship of the priority documents cited on page 1 of the instant specification.

For example, USSN 09/206,132 is now U.S. Patent No. 6,723,705.

3. The filing date of the instant claims is deemed to be the filing date of priority application USSN 08/101,624, filed 7/26/03.
4. The application is required to be reviewed and all spelling, TRADEMARKS, and like errors corrected.

Trademarks should be capitalized or accompanied by the ® or ™ symbol wherever they appear and be accompanied by the generic terminology. Although the use of trademarks is permissible in patent applications, the proprietary nature of the trademarks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Appropriate corrections are required

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5. Claims 1 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims are indefinite in the recitation of "a B7-2 molecule" or "B7-2 molecules having the ability to costimulate a T cell and the ability to bind a CD28 or CTLA4" in that they only describe the molecules of interest by an arbitrary protein name. While the name itself may have some notion of the activity of the protein, there is nothing in the claims, which distinctly claims the fusion protein. Applicant should particularly point out and distinctly claim the "B7-2 molecules" by claiming sufficient characteristics associated with the protein (e.g. SEQ ID NOS. 1 and 2). Claiming biochemical molecules by a particular name given to the protein by various workers in the field fails to distinctly claim what that protein is and what the compositions are made up of.

Applicant is reminded that the amendment must point to a basis in the specification so as not to add any new matter. See MPEP 714.02 and 2163.06

6. The following is a quotation of the first paragraph of 35 U.S.C. § 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. This is a 35 U.S.C § 112, first paragraph, "written description" (and not new matter).

Claims 1-3 and 6-14 are rejected under 35 U.S.C. § 112, first paragraph, as the specification does not contain a written description of the claimed invention, in that the disclosure does not reasonably convey to one skilled in the relevant art that the inventor(s) had possession of the claimed invention at the time the application was filed.

There is insufficient written description of the genus set forth in instant claim 1, which recites:

"a B7-2 molecule" or "B7-2 molecules having the ability to costimulate a T cell and the ability to bind a CD28 or CTLA4".

There is insufficient written description of the claimed genera of "B7-2 molecules" or "B7-2 molecules having the ability to costimulate a T cell and the ability to bind a CD28 or CTLA4" in the absence of defining the relevant identifying characteristics such as the structure of other physical and/or chemical characteristics of the claimed genus and, in turn, there is insufficient written description of such identifying characteristics of the claimed genera of "B7-2 molecules" or "B7-2 molecules having the ability to costimulate a T cell and the ability to bind a CD28 or CTLA4" in the specification as-filed, commensurate in scope with the claimed invention.

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For example, there is insufficient structural information or defining characteristics, which provide for a sufficient written description of the "B7-2 molecules", as broadly claimed.

Vas-Cath Inc. v. Mahurkar, 19 USPQ2d 1111, 1116 (Fed. Cir. 1991), makes clear that "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The invention is, for purposes of the 'written description' inquiry, whatever is now claimed." (See page 1117.) The specification does not "clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed." (See Vas-Cath at page 1116.)

Adequate written description requires more than a mere statement that it is part of the invention and reference to a potential method for isolating it. See Fiers v. Revel, 25 USPQ2d 1601, 1606 (CAFC 1993) and Amgen Inc. V. Chugai Pharmaceutical Co. Ltd., 18 USPQ2d 1016 (Fed. Cir. 1991).

One cannot describe what one has not conceived. See Fiddes v. Baird, 30 USPQ2d 1481, 1483. In Fiddes v. Baird, claims directed to mammalian FGF's were found unpatentable due to lack of written description for the broad class. The specification provided only the bovine sequence. Thus, the specification fails to describe these DNA sequences. The Court further elaborated that generic statements are not an adequate written description of the genus because it does not distinguish the claimed genus from others, except by function. Finally, the Court indicated that while applicants are not required to disclose every species encompassed within a genus, the description of a genus is achieved by the recitation of a representative number of DNA molecules, defined by nucleotide sequence, falling within the scope of the genus. See The Regents of the University of California v. Eli Lilly and Company, 43 USPQ2d 1398, 1406 (Fed. Cir. 1997).

For example, the instant specification discloses specific species of murine and human B7-2 molecules and does not provide a sufficient number of species that support the claimed genera of "B7-2 molecules" or "B7-2 molecules having the ability to costimulate a T cell and the ability to bind a CD28 or CTLA4".

Applicant is relying upon certain biological activities and the disclosure of a limited number of species to support entire genera. Yet, the instant specification does not provide sufficient written description as to the structural features of said "B7-2 molecules", as currently encompassed by the instant claims.

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Also, the specification does not provide for a sufficient correlation between the chemical structure and the function of the genera of "B7-2 molecules", currently encompassed by the claimed invention. The reliance on the disclosed limited examples of specific human and murine B7-2 molecules that meet the claimed "B7-2 molecules" indicated above and disclosed in the specification as filed does not support the written description of any "B7-2 molecules" broadly encompassed by the instant claims. It has been well known that minor structural differences even among structurally related compounds or compositions can result in substantially different biology, expression and activities. The specification as filed does not provide written description for "B7-2 molecules", commensurate in scope with the claimed invention.

There is insufficient written description to lead a person of skill in the art to know which sequences are essential, which sequences are non-essential, and what particular sequence lengths identify essential sequences for identifying "B7-2 molecules" or "B7-2 molecules having the ability to costimulate a T cell and the ability to bind a CD28 or CTLA4".

A person of skill in the art was not in possession of the breadth of claimed "B7-2 molecules" because it was well known in the art at the time the invention was made that different molecules having sequence similarity to costimulatory molecules such as B7-1 and B7-2 have different, and often opposite, functions (e.g. reviewed by Riley et al., 2005, Blood, 105: 13 - 21; see entire document).

Also, Coyle et al. (Nature Immunology 2: 203-209, 2001) disclose that B7-1 and B7-2 exhibit pronounced differences in structural and functional characteristics (page 204, column 1; The B7-1 and B7-2 Family) and disclose the increasing complexity in costimulatory signal regulating T cell function, wherein a number of molecules are poorly understood and likely have distinct roles in regulation T cells (see entire document).

Further, even single amino acid differences can result in drastically altered functions between two costimulatory proteins. For example, Metzler et al. (Nature Structural Biol. 1997; 4:527-531) show that any of a variety of single amino acid changes can alter or abolish the ability of CTLA4 to interact with its ligands CD80 and CD86 (e.g., summarized in Table 2). Thus, one would not expect possession of the scope of the claimed genera by relying on functional activities that will be shared by two polypeptides having less than 100% identity over the full length of their sequences.

Attwood (Science 290: 471-473, 2000) teaches that "[i]t is presumptuous to make functional assignments merely on the basis of some degree of similarity between sequences.

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Similarly, Skolnick et al. (Trends in Biotech. 18: 34-39, 2000) teach that the skilled artisan is well aware that assigning functional activities for any particular protein or protein family based upon sequence homology is inaccurate, in part because of the multifunctional nature of proteins (e.g., "Abstract" and "Sequence-based approaches to function prediction", page 34). Even in situations where there is some confidence of a similar overall structure between two proteins, only experimental research can confirm the artisan's best guess as to the function of the structurally related protein (see in particular "Abstract" and Box 2).

Mere idea or function is insufficient for written description; isolation and characterization at a minimum are required

The instant claims do not provide sufficient structural and functional characteristics coupled with a known or disclosed correlation between function and structure. Since the disclosure fails to describe the common attributes or characteristics that identify members of the genera of "B7-2 molecules".

The Guidelines for the Examination of Patent Applications Under the 35 U.S.C. 112, 1 "Written Description" Requirement makes clear that if a claimed genus does not show actual reduction to practice for a representative number of species; then the Requirement may be alternatively met by reduction to drawings, or by disclosure of relevant, identifying characteristics, i.e., structure or other physical and or chemical properties, by functional characteristics coupled with a known or disclosed correlation between function and structure, or by a combination of such identifying characteristics, sufficient to show the applicant was in possession of the genus (Federal Register, Vol. 66, No. 4, pages 1099-1111, Friday January 5, 2001, see especially page 1106 column 3).

In the absence of structural characteristics that are shared by members of the genus of "B7-2 molecules" or "B7-2 molecules having the ability to costimulate a T cell and the ability to bind a CD28 or CTLA4",

the skilled artisan would conclude that the disclosure fails to provide a representative number of species to describe the genus.

Thus, Applicant was not in possession of the claimed genus. See University of California v. Eli Lilly and Co. 119 F.3d 1559, 43 USPQ2d 1398 (Fed. Cir. 1997).

Applicant is directed to the Guidelines for the Examination of Patent Applications Under the 35 U.S.C. 112, 1 "Written Description" Requirement, Federal Register, Vol. 66, No. 4, pages 1099-1111, Friday January 5, 2001.

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"Adequate written description requires a precise definition, such as by structure, formula, chemical name or physical properties, not a mere wish or plan for obtaining the claimed chemical invention." Id. at 1566, 43 USPQ2d at 1404 (quoting Fiers, 984 F.2d at 1171, 25 USPQ2d at 1606). Also see Enzo-Biochem v. Gen-Probe 01-1230 (CAFC 2002).

Applicant is reminded that Vas-Cath makes clear that the written description provision of 35 USC 112 is severable from its enablement provision. (See page 1115.)

Applicant is invited to limit the invention to the disclosed human and mouse "B7-2 molecules" to obviate this rejection.

9. Claims 1-3 and 6-14 are rejected under 35 U.S.C. § 112, first paragraph, because the specification, while being enabling for certain nucleic acids encoding certain murine and human B7-2 encoding nucleic acids encoding the first peptide set forth in the claimed B7-2 fusion protein encoding nucleic acid and while being enabling for reliance upon known immunoglobulin constant regions for nucleic acids encoding the second peptide set forth in the claimed B7-2 fusion protein molecules as disclosed in the specification as filed, does not reasonably provide enablement for any

"B7-2 molecule" or "B7-2 molecule having the ability to costimulate a T cell and the ability to bind a CD28 or CTLA4".

The specification does not enable any person skilled in the art to which it pertains, or with which it is most clearly connected, to make and use the invention commensurate in scope with these claims.

molecule

Applicant has not provided sufficient biochemical information (e.g. molecular weight, amino acid composition, N-terminal sequence, etc.) that distinctly identifies any "B7-2 molecule" or "B7-2 molecule having the ability to costimulate a T cell and the ability to bind a CD28 or CTLA4". "B7-2 molecules" may have some notion of the structure and function of the claimed molecules, however, claiming biochemical molecules by generic terms such as "molecule" does not provide sufficient guidance and direction as how to make and use the claimed genera of "B7-2 molecules" broadly encompassed by the instant claims.

Reasonable correlation must exist between the scope of the claims and scope of enablement set forth.

The specification does not describe nor enable any "B7-2 molecules" or "B7-2 molecules having the ability to costimulate a T cell and the ability to bind a CD28 or CTLA4", as broadly encompassed by the claimed invention.

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A person of skill in the art was not enabled to make and use the breadth of claimed "B7-2 molecules" because it was well known in the art at the time the invention was made that different molecules having sequence similarity to costimulatory molecules such as B7-1 and B7-2 have different, and often opposite, functions (e.g. reviewed by Riley et al., 2005, Blood, 105: 13 - 21; see entire document).

Also, Coyle et al. (Nature Immunology 2: 203-209, 2001) disclose that B7-1 and B7-2 exhibit pronounced differences in structural and functional characteristics (page 204, column 1; The B7-1 and B7-2 Family) and disclose the increasing complexity in costimulatory signal regulating T cell function, wherein a number of molecules are poorly understood and likely have distinct roles in regulation T cells. (see entire document).

Further, even single amino acid differences can result in drastically altered functions between two costimulatory proteins. For example, Metzler et al. (Nature Structural Biol. 1997; 4:527-531) show that any of a variety of single amino acid changes can alter or abolish the ability of CTLA4 to interact with its ligands CD80 and CD86 (e.g., summarized in Table 2). Thus, one would not expect the ordinary artisan to make and use the scope of the claimed genera by relying on functional activities that will be shared by two polypeptides having less than 100% identity over the full length of their sequences.

Attwood (Science 290: 471-473, 2000) teaches that "[i]t is presumptuous to make functional assignments merely on the basis of some degree of similarity between sequences.

Similarly, Skolnick et al. (Trends in Biotech. 18: 34-39, 2000) teach that the skilled artisan is well aware that assigning functional activities for any particular protein or protein family based upon sequence homology is inaccurate, in part because of the multifunctional nature of proteins (e.g., "Abstract" and "Sequence-based approaches to function prediction", page 34). Even in situations where there is some confidence of a similar overall structure between two proteins, only experimental research can confirm the artisan's best guess as to the function of the structurally related protein (see in particular "Abstract" and Box 2).

The instant claims do not provide sufficient structural and functional characteristics coupled with a known or disclosed correlation between function and structure. Since the disclosure fails to describe the common attributes or characteristics that identify members of the genera of "B7-2 molecules" or "B7-2 molecules having the ability to costimulate a T cell and the ability to bind a CD28 or CTLA4", the skilled artisan would not have sufficient guidance and direction as to how to make and use the claimed "B7-2 molecules" as broadly claimed. For example, it has been well known that minor structural differences even among structurally related compounds or compositions can result in substantially different biology, expression and activities.

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Further, applicant is relying upon certain biological activities and the disclosure of specific murine and human species of "B7-2 molecules" to support genera of the claimed "B7-2 molecules". Yet the instant specification does not provide sufficient guidance and direction how to make and use any "B7-2 molecules", as encompassed by the claims.

Since the amino acid sequence of a polypeptide determines its structural and functional properties, predictability of which changes can be tolerated in a polypeptide's amino acid sequence and still retain similar functionality (e.g. B7-2 biological activity) requires a knowledge of and guidance with regard to which amino acids in the polypeptide's sequence, if any, are tolerant of modification and which are conserved (i.e. expectedly intolerant to modification), and detailed knowledge of the ways in which a polypeptide's structure relates to its functional usefulness. However, the problem of predicting polypeptide structure from mere sequence data of a limited number of amino acid and encoding nucleic acid sequences and, in turn, utilizing predicted structural determinations to ascertain binding or functional aspects of ligands and receptors (e.g., "B7-2 molecules") and finally what changes can be tolerated with respect thereto is complex and well outside the realm of routine experimentation. In re Fisher, 166 USPQ 18 indicates that the more unpredictable an area is, the more specific enablement is necessary in order to satisfy the statute.

Because of the lack of sufficient guidance and predictability in determining which structures would lead to "B7-2 molecules" or "B7-2 molecules having the ability to costimulate a T cell and the ability to bind a CD28 or CTLA4", other than those disclosed in the specification as-filed with the desired properties and that the relationship between the sequence of a nucleic acid encoding a functional costimulatory molecule structure as the relationship between structure-function was not well understood and was not predictable. It would require an undue amount of experimentation for one of skill in the art to arrive at the breadth of "B7-2 molecules", as broadly encompassed by the claimed invention.

In the absence of sufficient guidance and direction to the structural and functional analysis, the experimentation left to those skilled in the art is unnecessarily, and improperly, extensive and undue to make and use "B7-2 molecules" or "B7-2 molecules having the ability to costimulate a T cell and the ability to bind a CD28 or CTLA4", other than relying on those murine and human "B7-2 molecules", as disclosed in the specification as-filed.

"It is not sufficient to define the recombinant molecule by its principal biological activity, e.g. having protein A activity, because an alleged conception having no more specificity than that is simply a wish to know the identity of any material with that biological property." Colbert v. Lofdahl, 21 USPQ2d, 1068, 1071 (BPAI 1992).

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A patent is granted for a completed invention, not the general suggestion of an idea and how that idea might be developed into the claimed invention. In the decision of Genentech, Inc. v. Novo Nordisk, 42 USPQ 2d 100,(CAFC 1997), the court held that:

"[p]atent protection is granted in return for an enabling disclosure of an invention, not for vague intimations of general ideas that may or may not be workable" and that "[t]ossing out the mere germ of an idea does not constitute enabling disclosure". The court further stated that "when there is no disclosure of any specific starting material or of any of the conditions under which a process is to be carried out, undue experimentation is required; there is a failure to meet the enablement requirements that cannot be rectified by asserting that all the disclosure related to the process is within the skill of the art", "[I]t is the specification, not the knowledge of one skilled in the art, that must supply the novel aspects of an invention in order to constitute adequate enablement".

Without sufficient guidance, making and using "B7-2 molecules" or "B7-2 molecules having the ability to costimulate a T cell and the ability to bind a CD28 or CTLA4" other than limiting the disclosed murine and human "B7-2 molecules" in the specification as-filed as would have been unpredictable and the experimentation left to those skilled in the art is unnecessarily, and improperly, extensive and undue.

Applicant is invited to limit the invention to the disclosed human and mouse "B7-2 molecules" to obviate this rejection.

10. The non-statutory double patenting rejection, whether of the obvious-type or non-obvious-type, is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent. *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Van Ornam*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); and *In re Goodman*, 29 USPQ2d 2010 (Fed. Cir. 1993).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321 (b) and (c) may be used to overcome an actual or provisional rejection based on a non-statutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.78 (d).

Effective January 1, 1994, a registered attorney or agent of record may sign a Terminal Disclaimer. A Terminal Disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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11. Claims 1-14 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-25 of U.S. Patent No. 6,723,705.

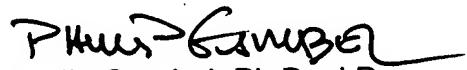
Although the claims are not exactly the same, the recitation of "ex vivo" in the instant claims is encompassed by the patented claims and was either anticipated, immediately envisaged or an obvious variant of expressing B7-2 in tumor cells by direct injection of a nucleic acid encoding B7-2 into a tumor cell in order to increase the immunogenicity of tumor cells at the time the invention was made to one of ordinary skill.

12. No claim is allowed.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phillip Gambel whose telephone number is (571) 272-0844. The examiner can normally be reached Monday through Thursday from 7:30 am to 6:00 pm. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on (571) 272-0841.

The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

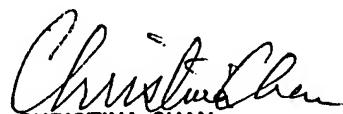


Phillip Gambel, Ph.D., J.D.

Primary Examiner

Technology Center 1600

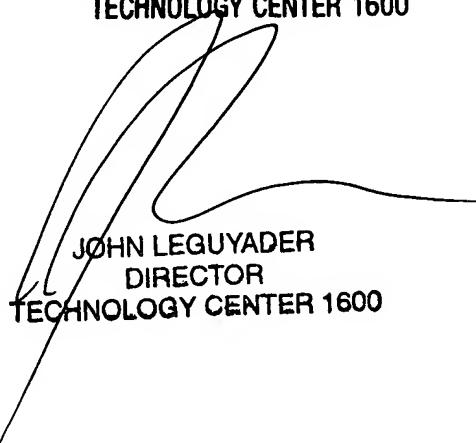
February 5, 2007



CHRISTINA CHAN

SUPERVISORY PATENT EXAMINER

TECHNOLOGY CENTER 1600



JOHN LEGUYADER
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